|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Roll No |  |  |  |  |  |  |  |  |  |  |  |  |

****

**Presidency University**

**Bengaluru**

**Ph. D Course Work End Term Examinations – JAN-FEB 2025**

**Date:** 05-02-2025

**Time:** 9.30 AM TO 12.30 PM

**Max Marks:** 100

**Weightage**: 50%

**Semester:**

**Course Code:** RES 802

**Course Name:** Research Methodology and Publication Ethics for Computer Science and Engineering

**School:** SOCSE

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

**PART A**

**Answer all the Questions. Each question carries 10 marks. (6Qx 10M= 60M)**

|  |  |
| --- | --- |
| **1.** | 1. Define the term ‘hypotheses. What is a null hypothesis? [3] 2. Give 3 examples of inclusion and exclusion criteria in literature survey. [3] 3. Explain the step-by-step process of sample design for research. [4] |
| **2.** | 1. List and define various components of descriptive statistics. [4] 2. Explain with an example simple probability rule for equally likely outcomes. [6] |
| **3.** | 1. Distinguish the terms population, sample and research variables. Identify these three in this example: “A manufacturer examines the records of each of its employees to determine how long each one has worked for the company”. [4] 2. Write short notes on binomial distribution. [3] 3. Define probability distribution and list its advantages. [3] |
| **4.** | 1. Explain the use of ANOVA with a suitable example. [6] 2. What is the use of citation databases in Computer Science research? Give examples. [4] |
| **5.** | 1. Differentiate correlation and regression analysis. [3] 2. Draw the diagram to depict the various stages in data preparation process. [3] 3. Give an example of applied ethics in Computer Science research. [2] 4. List the major classes of moral judgement. [2] |
| **6.** | 1. State the criteria for a publication to become ‘redundant’? [3] 2. Write short notes on scientific misconduct (FFP). [3] 3. Explain any two types of data analytics with examples. [4] |

**PART B**

**Answer all the Questions. Each question carries 20 marks. (2Qx 20M= 40M)**

|  |  |
| --- | --- |
| **7.** | 1. Define T-test and state its use. Explain with an example any one type of T-test. . [14] 2. Explain any two levels of research metrics in detail. [6] |
| **8.** | 1. Explain the various approaches to formal specification. [8] 2. Differentiate proof of concept and proof of performance with suitable examples. . [6] 3. What makes a good publication? What are the DOs and Don'ts a good researcher should follow? [6] |